

Section 5-2: Solving Inequalities by Multiplication and Division

By the end of this lesson, you should be able to answer:

- How do we solve and graph inequalities with multiplication or division?

Question: How does the process of solving an inequality compare to the process of solving an equation?

FLIPPING THE INEQUALITY

Example 1: Matt Mitarnowski walks at a rate of $\frac{3}{4}$ mile an hour. He knows that he is at least 6 miles from Lake Shecky. How long will it take him to get there? Write and solve an inequality to find the time.

Example 2: Solve the inequality and graph the solution.

a. $-\frac{3}{5}x \geq 6$

b. $12k \geq 60$

c. $-8q < 136$

d. $-\frac{2}{3}m \leq -10$

Example 3: Maggie Brann and friends order a pizza. Maggie eats 2 of the 16 slices and pays \$2.80 for her share. Assuming that Maggie has paid at least her fair share, what is the most the pizza cost? Identify a variable, then set up and solve an inequality. Interpret your solution.

Summarizer: Using complete sentences, explain when you would switch the sign in an inequality. What is the reason as to why this occurs?

Problem Set 1: p. 293 #1-9

Problem Set 2: p. 293 #12-27 multiplies of 3, 31-33 all, 63-68 all

"If you can find a path with no obstacles, it probably doesn't lead anywhere."
- Frank A. Clark